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## One to Grow On / From Gadget to Gift

*Carol Ann Tomlinson*

A friend of mine was talking with her teenage daughter who was away at college. She asked her if she'd heard from her dad, who was working in Italy. Her daughter said, "Sure, we Skype almost every day." Reflecting on what that act really entails, my friend responded, "Isn't it amazing that you can do that with such ease!" Without missing a beat, the young voice on the other end of the cell phone said, "Good grief, Mom, I'm way too young to be impressed by that!"

I confess that I'm way too old *not* to be impressed. I'm fascinated with the rapid evolution of devices and gadgets that I've integrated into my life and the array of possibilities they suggest for classrooms. I'm riveted when I see a colleague's kindergartners interacting with kids in Japan through Skype—in real time and with life-size images of both classrooms. I want to teach middle school again when I hear about teachers using digital word walls. I want to go back and learn about continental drift again when I watch the continents reshape themselves on a YouTube animation. I'm deeply intrigued by the possibilities of "flipping school" as I watch Salman Khan's elegant explanations of concepts in math and other disciplines and consider the reach of the Khan Academy.

There's an embarrassment of riches in opportunities to enliven teaching and learning through technology. Yet I still see many classrooms where state-of-the-art technology means substituting PowerPoint presentations for overhead transparencies in a lecture—or having two or three computers on the side of the room that students use to plug in to programmed math or reading exercises on a rotating schedule. New technologies are massively integrated into virtually every aspect of our lives—except school.

### How Some Resisters Evolved

In the 1990s, I read a report from a 10-year study called *Apple Classrooms of Tomorrow*, which examined what happened when each teacher and each student in selected schools was provided with a free computer—and encouraged to use computers as routinely as they used paper and books in their classrooms.<sup>1</sup> Perhaps not surprisingly, the Apple representatives (who, with non-Apple researchers, examined the results) found that, at least initially, many teachers embraced neither the computers nor the emissaries who were available to help them integrate computers into teaching. Because Apple funded this project over a number of years, researchers could study what took place as some teachers evolved from resisters to eager, artful users of computers in their teaching.

It turns out, the evolution wasn't really about the computers. Moving from "computer as furniture" to "computer as practice station" to "computer as occasional lesson decoration" to "computer as an extension of and enhancement to teacher and student thought" required a serious transformation of how teachers thought about teaching and learning.

The teachers gradually moved away from a teacher-centered, script-based, time-driven approach—in which the teacher is the teller, the student is the receiver, and learning equates to giving back right answers. They slowly gave up the belief that a class that's quiet and predictable represents a fertile learning environment. They learned to listen to students and respond to their questions, interests, and needs. They progressively came to trust and support student capacity for independence. And they found peace with the reality that the kids were often more comfortable with the equipment than the teachers were.

At that juncture, an important thing happened. Teachers began to see students as more competent and trustworthy than before. This opened the way to teachers designing a kind of instruction that required students to move around, communicate, collaborate, and have a voice in the expression of their learning.

## Technology as a Gift

The Apple researchers found that these teachers began to see their content as broader than the textbook and to use that content to illuminate thought. Students could create products that were far more effective than a short-answer test in revealing understanding (or misunderstanding) of a topic. At the same time, the more open and expansive student work helped teachers understand their students better and think more broadly about the meaning of their content. Teachers began to see students as their partners in inquiry. Classrooms became lively places in which there was both a plan for learning and flexibility to open up the plan in ways that strongly engaged learners' minds. At that point, the computer became an extension of the students' curiosity and the teachers' creativity.

Here's the thing. When teaching is prescribed, constrained, and reduced to the lowest common denominator, technology gets in the way. It becomes something else to bother with. It threatens to create disorder. When teaching strives to connect kids with the universe in which they live—and the one they imagine—technology is a gift.

I've come to believe that *any* promising classroom innovation will find itself locked outside the classrooms of teachers who work in a culture that nourishes the status quo—and will be welcomed by teachers who continually seek to connect students with a world of ideas.

## Watch the Interview

EL columnist Carol Ann Tomlinson talks with EL Editor in Chief Marge Scherer.

## Endnote

- <sup>1</sup> Apple Computer. (1995). *Changing the conversation about teaching, learning, and technology: A report on 10*

years of ACOT research. Cupertino, CA: Author. Retrieved from <http://imet.csus.edu/imet1/baeza/PDF%20Files/Upload/10yr.pdf>; and Sandholz, J., Ringstaff, C., & Dwyer, D. (n.d.). *Teaching in high-tech environments: First-fourth year findings*. Cupertino, CA: Apple Computer. Retrieved from <http://images.apple.com/euro/pdfs/acotlibrary/rpt10.pdf>

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